IN THE CLAIMS:

The following listing of claims will replace all prior versions, and listings, of claims in the application.

1. - 42. (Cancelled)

43. (New) A computer-accessible memory medium that stores program instructions executable by a processor to perform:

displaying a data acquisition (DAQ) node in a graphical program;

receiving first user input invoking display of a plurality of DAQ functions for the DAQ node;

displaying the plurality of functions for the DAQ node in response to the first user input;

receiving second user input selecting a function from the plurality of DAQ functions;

determining graphical program code based on the second user input, wherein the determined graphical program code is executable to provide functionality in accordance with the selected function;

associating the determined graphical program code with the DAQ node, wherein, when the DAQ node in the graphical program executes, the determined graphical program code executes to provide the functionality in accordance with the selected function.

44. (New) The memory medium of claim 43, wherein the DAQ node has a first node icon which is displayed in the graphical program, and wherein the first node icon has a first appearance, wherein the program instructions are further executable to perform:

changing the first node icon to a second appearance based on the second user input, wherein said changing the first node icon to a second appearance includes displaying an image corresponding to the selected function.

45. (New) The memory medium of claim 43,

wherein said changing the first node icon to a second appearance comprises replacing the first node icon with a second node icon.

46. (New) The memory medium of claim 43, wherein, prior to said associating the determined graphical program code with the DAQ node, the DAQ node does not have any associated graphical program code.

47. (New) The memory medium of claim 43,

wherein, prior to said associating the determined graphical program code with the DAQ node, the DAQ node has associated default graphical program code in accordance with a default function for the node, and wherein the default graphical program code implement a first functionality; and

wherein said associating the determined graphical program code with the DAQ node comprises replacing the default graphical program code with the determined graphical program code.

48. (New) The memory medium of claim 43,

wherein said receiving first user input comprises receiving the first user input to the DAQ node; and

wherein said receiving second user input comprises receiving the second user input to the DAQ node.

49. (New) The memory medium of claim 43,

wherein said displaying the plurality of functions for the DAQ node in response to the first user input comprises;

displaying a plurality of function classes for the DAQ node; and

in response to user input selecting a function class, displaying the plurality of functions, wherein the plurality of functions are in the selected function class.

50. (New) The memory medium of claim 43,

wherein, prior to said associating, the DAQ node comprises one of:

a generic read node;

a generic write node;

a generic channel creation node;

a generic timing node; or

a generic triggering node; and

wherein, after said associating, the DAQ node comprises one of:

a specific read node in accordance with the selected function;

a specific write node in accordance with the selected function;

a specific channel creation node in accordance with the selected function;

a specific timing node in accordance with the selected function; or

a specific triggering node in accordance with the selected function.

51. (New) The memory medium of claim 43, wherein the DAQ node represents a subprogram, wherein the program instructions are further executable to perform:

receiving user input invoking expansion of the DAQ node; and

displaying the subprogram in response to said invoking.

52. (New) A computer-implemented method for configuring a graphical program node, comprising:

displaying a data acquisition (DAQ) node in a graphical program;

receiving first user input invoking display of a plurality of DAQ functions for the DAQ node;

displaying the plurality of functions for the DAQ node in response to the first user input;

receiving second user input selecting a function from the plurality of DAQ functions;

determining graphical program code based on the second user input, wherein the determined graphical program code is executable to provide functionality in accordance with the selected function;

associating the determined graphical program code with the DAQ node, wherein, when the DAQ node in the graphical program executes, the determined graphical program code executes to provide the functionality in accordance with the selected function.

53. (New) A computer-accessible memory medium that stores program instructions executable by a processor to perform:

displaying a data acquisition (DAQ) node in a graphical program;

receiving first user input invoking display of a plurality of DAQ functions for the DAQ node;

displaying the plurality of functions for the DAQ node in response to the first user input;

receiving second user input selecting a function from the plurality of DAQ functions;

determining a second node based on the selected function, wherein the second node comprises graphical program code executable to provide functionality in accordance with the selected function;

replacing the DAQ node in the graphical program with the second node, wherein, when the second node in the graphical program executes, the determined graphical program code executes to provide the functionality in accordance with the selected function.

54. (New) The memory medium of claim 53, wherein the DAQ node comprises a first node icon, and wherein said displaying the DAQ node comprises displaying the first node icon, and wherein the second node comprises:

the first node icon and the determined graphical program code; or

a second node icon and the determined graphical program code.

55. (New) The memory medium of claim 53, wherein the DAQ node and/or the second node is one or more of:

polymorphic;

function switchable; or

function class switchable.

56. (New) The memory medium of claim 53,

wherein the DAQ node comprises one of:

a generic read node;

a generic write node;

a generic channel creation node;

a generic timing node; or

a generic triggering node; and

wherein the second node comprises a corresponding one of:

a specific read node in accordance with the selected function;

a specific write node in accordance with the selected function;

a specific channel creation node in accordance with the selected function;

a specific timing node in accordance with the selected function; or

a specific triggering node in accordance with the selected function.

57. (New) The memory medium of claim 53, wherein the second node represents a subprogram, wherein the program instructions are further executable to perform:

receiving user input invoking expansion of the second node; and

displaying the subprogram in response to said invoking.

58. (New) A computer-implemented method for configuring a graphical program node, comprising:

displaying a data acquisition (DAQ) node in a graphical program;

receiving first user input invoking display of a plurality of DAQ functions for the DAQ node;

displaying the plurality of functions for the DAQ node in response to the first user input;

receiving second user input selecting a function from the plurality of DAQ functions;

determining a second node based on the selected function, wherein the second node comprises graphical program code executable to provide functionality in accordance with the selected function;

replacing the DAQ node in the graphical program with the second node, wherein, when the second node in the graphical program executes, the determined graphical program code executes to provide the functionality in accordance with the selected function.

59. (New) A computer-accessible memory medium that stores program instructions executable by a processor to perform:

displaying a DAQ node in a graphical program, wherein the DAQ node has a first node icon which is displayed in the graphical program, and wherein the first node icon has a first appearance;

receiving user input specifying one or more inputs to the DAQ node;

determining a function from a plurality of possible DAQ functions for the DAQ node based on the specified one or more inputs;

determining graphical program code based on the determined function, wherein the determined graphical program code is executable to provide functionality in accordance with the determined function;

associating the determined graphical program code with the DAQ node, wherein, when the DAQ node executes in the graphical program, the determined graphical program code is operable to execute to provide the functionality in accordance with the determined function.

60. (New) The memory medium of claim 59, wherein the DAQ node has a first node icon which is displayed in the graphical program, and wherein the first node icon has a first appearance, wherein the program instructions are further executable to perform:

changing the first node icon to a second appearance based on the second user input, wherein said changing the first node icon to a second appearance includes displaying an image corresponding to the selected function.

61. (New) The memory medium of claim 59,

wherein said changing the first node icon to a second appearance comprises replacing the first node icon with a second node icon.

62. (New) The memory medium of claim 59, wherein, prior to said associating the determined graphical program code with the DAQ node, the DAQ node does not have any associated graphical program code.

63. (New) The memory medium of claim 59,

wherein, prior to said associating the determined graphical program code with the DAQ node, the DAQ node has associated default graphical program code in accordance with a default function for the node, and wherein the default graphical program code implement a first functionality; and

wherein said associating the determined graphical program code with the DAQ node comprises replacing the default graphical program code with the determined graphical program code.

64. (New) The memory medium of claim 59,

wherein, prior to said associating, the DAQ node comprises one of:

a generic read node;

a generic write node;

a generic channel creation node;

a generic timing node; or

a generic triggering node; and

wherein, after said associating, the DAQ node comprises one of:

a specific read node in accordance with the selected function;

a specific write node in accordance with the selected function;

a specific channel creation node in accordance with the selected function;

a specific timing node in accordance with the selected function; or

a specific triggering node in accordance with the selected function.

65. (New) The memory medium of claim 59, wherein the DAQ node represents a subprogram, wherein the program instructions are further executable to perform:

receiving user input invoking expansion of the DAQ node; and

displaying the subprogram in response to said invoking.

66. (New) A computer-implemented method for configuring a graphical program node, comprising:

displaying a DAQ node in a graphical program, wherein the DAQ node has a first node icon which is displayed in the graphical program, and wherein the first node icon has a first appearance;

receiving user input specifying one or more inputs to the DAQ node;

determining a function from a plurality of possible DAQ functions for the DAQ node based on the specified one or more inputs;

determining graphical program code based on the determined function, wherein the determined graphical program code is executable to provide functionality in accordance with the determined function;

associating the determined graphical program code with the DAQ node, wherein, when the DAQ node executes in the graphical program, the determined graphical program code is operable to execute to provide the functionality in accordance with the determined function.

67. (New) A computer-accessible memory medium that stores program instructions executable by a processor to perform:

displaying a DAQ node in a graphical program, wherein the DAQ node has a first node icon which is displayed in the graphical program, and wherein the first node icon has a first appearance;

receiving user input specifying one or more inputs to the DAQ node;

determining a function from a plurality of possible DAQ functions for the DAQ node based on the specified one or more inputs;

determining a second node based on the selected function, wherein the second node comprises graphical program code executable to provide functionality in accordance with the selected function;

replacing the DAQ node in the graphical program with the second node, wherein, when the second node in the graphical program executes, the determined graphical program code executes to provide the functionality in accordance with the selected function.

68. (New) A computer-implemented method for configuring a graphical program node, comprising:

displaying a DAQ node in a graphical program, wherein the DAQ node has a first node icon which is displayed in the graphical program, and wherein the first node icon has a first appearance;

receiving user input specifying one or more inputs to the DAQ node;

determining a function from a plurality of possible DAQ functions for the DAQ node based on the specified one or more inputs;

determining a second node based on the selected function, wherein the second node comprises graphical program code executable to provide functionality in accordance with the selected function;

replacing the DAQ node in the graphical program with the second node, wherein, when the second node in the graphical program executes, the determined graphical program code executes to provide the functionality in accordance with the selected function.